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BELLSOUTH TELECOMMUNICATIONS, INC.

DIRECT TESTIMONY OF DANIEL M. BAEZA

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NOS. 960833-TP, 960846-TP, 960757-TP, 971140-TP, 960916-TP

NOVEMBER 13, 1997

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Daniel M. Baeza. My business address is 6451 North Federal Highway, Fort Lauderdale, Florida.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by BellSouth Telecommunications, Inc. (hereinafter referred to as "BellSouth" or "the Company") as a Director in Infrastructure Planning for the states of Florida, Alabama, Mississippi, and Louisiana.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND, WORK EXPERIENCE, AND CURRENT RESPONSIBILITIES.

A. I received a bachelor of science degree in electrical engineering in 1974, and a master of science degree in electrical engineering in 1979, both from the University of Miami. Also, I have qualified as a registered professional engineer in the state of Florida. For the past twenty-three years, I have been an employee of BellSouth. From 1974 to mid-1979, I held various assignments within the Florida Planning and Engineering Department, including circuit engineering, switch engineering, and engineering staff. In 1979 I joined the Network Operations Department as a budget analyst and software developer. I returned to the Network Planning and Engineering Department in 1982 and managed the operation of the E911 automatic location identification system for BellSouth. In 1987, I accepted a rotational assignment with Bell Communications Research in New Jersey, providing project management for the development of new operations support systems. In 1990, I returned to Planning and Engineering in Florida. I presently hold the position of Director in Infrastructure Planning where I am responsible for interoffice facility, switching, and fundamental loop planning.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. As a Director in Infrastructure Planning, I know and understand the technology that is deployed in the BellSouth network today and how that network is expected to evolve in the future. The purpose of my testimony is to bring to bear that knowledge in discussing the appropriateness of the network design underlying BellSouth's unbundled network element cost studies. Additionally, I will provide definitions for certain network terminology used in the study and discuss the appropriateness of certain key assumptions on which the study is founded.

Q. PLEASE DESCRIBE THE NETWORK INFRASTRUCTURE DESIGN USED IN THE COST STUDY.

A. As is the case with any good cost study, the network design of a TSLRIC study should (1) include forward-looking, incremental costs, and (2) be based on the incumbent LEC's existing wire center locations and the most efficient technology available. My testimony focuses on this last point.

Q. WHAT TECHNOLOGIES ARE ASSUMED IN THE COST STUDY?

A. The interoffice infrastructure in the study consists of fiber transmission facilities with sufficient electronics to provide for both 64 kbps (voice grade) and 1.544 mbps (DS1) of transmitted information. This design incorporates SONET OC3, OC12 and OC48 rings.

The loop design provides for copper loops for distances from the central office up to 12 kilofeet. Distances beyond 12 kilofeet are designed to be served with digital loop carrier (DLC) and fiber feeder facilities. For the majority of the loops served by DLC, Next Generation Digital Loop Carrier is provided.

For loops less than 12 kilofeet, the designs reflect the use of 26 gauge copper cable, and if required, 24 gauge cable as feeder facilities. All distribution plant cable has been designed to use 26 gauge cable as well. Bridged tap in the feeder and distribution plant is designed to a maximum of 2500 feet.

All of the technical terms and designs mentioned will receive greater treatment further in the body of my testimony.

Q. PLEASE DEFINE SONET OC12 RINGS, DIGITAL LOOP CARRIER, NEXT GENERATION DIGITAL LOOP CARRIER AND BRIDGED TAPS AS THEY RELATE TO THIS DESIGN.

A. SONET stands for <u>S</u>ynchronous <u>O</u>ptical <u>Net</u>work. It is a family of transmission channels that provide for speeds from ~DS3 (45Mb/s) to 2.4 Gb/s and higher. "OC" stands for Optical Carrier and, in conjunction with a numerical identifier, indicates the transport rate at which information is carried. Thus, a SONET OC12 facility would be a synchronous optical network facility operating at "Optical Carrier rate 12" (or 600 mb/s). Such a facility would carry in excess of 8,000 narrowband channels of up to 64 Kb/s each.

The use of SONET Rings in this design provides the most efficient interoffice design. Not only are greater transport bandwidths available with SONET, optical interfaces become standardized allowing for cost efficiency. This technology also provides self-healing capabilities that prevent many service interruptions and improves the reliability of the network. Digital Loop Carrier (DLC) is equipment used in the loop to multiplex multiple voice grade circuits onto one or more DS1 facilities for transmission to the central office switch. The remote terminal, so called because it is in the field (i.e., loop), takes the voice grade circuits from the distribution plant and performs the multiplexing function. Once the DS1s reach the central office switch, termination is provided on a Central Office Terminal (COT). The COT performs analog-to-digital/digital-to-analog functions in the process of demultiplexing the DS1s to voice grade circuits. This method of demultiplexing allows the DLC to operate in universal mode. Universal merely means providing the ability to demultiplex to a voice grade level and terminate that circuit wherever it needs to go. This is as opposed to integrated technology which terminates the DS1s into the switch without an intervening demultiplexing/analog to digital conversion step. The universal operation is used in both Series 5 DLC and Next Generation DLC. Integrated DLC is not used in the cost study since BellSouth must be able to provision a loop on a stand-alone basis.

As it relates to the cost study's network design, DLC provides for a more efficient use of facilities by reducing the number of copper pairs required in the feeder plant. In the case of this study, Next Generation DLC (NGDLC) was used in the design for the vast majority of DLC requirements. NGDLC is a new loop transport platform. NGDLC enables greater flexibility and increased capabilities over DLC including integrated add-drop multiplexing, modular channel shelves and timeslot interchange. These advantages increase the efficiency of the infrastructure design.

In the design of a distribution route, a single pair of wires comprising a telephone line may be routed from the central office to several streets within a subdivision. When that pair is assigned on one of the streets to become a customer's telephone line, the pair of wires on the other streets becomes unusable and is referred to as bridged tap. Bridged tap refers to that situation where a cable pair exists in two different locations. The pair of wires can be used in either location, but not in both. The unused portion of the pair is called "bridged tap". The network design of the cost study only uses bridged taps to a maximum of 2500 feet so that signal degradation can be minimized.

These technologies I have just described are appropriate for the underlying design of an unbundled network element cost study. They meet the criteria for providing the least cost most efficient technology available as well as offering the advantages of current technological innovation.

Q. THE COST STUDIES THAT ARE BEING PRESENTED BY BELLSOUTH ARE BUILT ON A NUMBER OF ASSUMPTIONS,

INCLUDING SUCH THINGS AS "UTILIZATION" LEVELS AND THE NECESSITY FOR WHAT IS CALLED "BRIDGED TAP". CAN YOU ADDRESS THESE ASSUMPTIONS AND THEIR VALIDITY?

A. Yes. In any study which seeks to calculate what something will cost in the future, it is necessary to make assumptions about future conditions. For instance, what technology will be deployed in the interoffice network next year, or two years from now? We have a number of techniques for making such assumptions. In most cases, these "assumptions" are estimates that BellSouth subject matter experts can make based on their experience with the network and their knowledge of what has occurred in the past with regard to that network and what new technologies will be available in the future. I will address certain of these assumptions and explain why they are valid and appropriate for these studies.

Q. PLEASE EXPLAIN THE FACTORS THAT DETERMINE "UTILIZATION" FACTOR AND "FILL" FACTOR LEVELS IN THE NETWORK.

A. One of the primary assumptions in BellSouth's cost studies involves the "fill" factors or the "utilization" factors that we use as we plan and place our network. Obviously a 600 pair cable that only has 300 pairs working, or a utilization factor of 50%, presents the situation where the working 300 pairs have to recover, all other things being equal, the cost of the 300 spare pairs. In some respects it might be better if there were 450 or 500 working pairs so the cost of each pair would be minimized in terms of the spare capacity that has to be maintained. On the other hand, while you do not want to have 300 spare pairs laying idle, if you are digging a trench and putting cable down Flagler St. in Miami, you want to put enough cable in the first time so that you do not have to dig the street up again in six months in order to lay a second cable to meet the additional demand for service in that area. It should be obvious, but I will say so anyway, that the major cost in placing cable, as in the example above, is not in the difference in the cost of a 300 pair cable and a 600 pair cable, but in the cost of digging up the street to place the cable. Clearly you want to place cable, and for that matter, any plant, in a manner which minimizes the cost of doing so, whether you are talking about the actual cost of placing the plant, or the cost of carrying spare capacity.

Further, the "utilization" of the network turns in many instances on the portion of the network which is being reviewed. A good example is the difference in the "utilization" factors for feeder and distribution plant. In the feeder plant, we expect a utilization factor of about 70%, while in the distribution plant, the fill factor would be expected to range around 40%.

Feeder fill factors or utilization rates represent the number of assigned pairs versus the number of available pairs. This measurement for both copper and fiber is taken at the main distributing frame of each switch on which feeder cable terminates. Not only is it aggregated at the wire center switch for initial measurement, but is further aggregated to provide a state total utilization rate. BellSouth's copper feeder utilization rate runs generally around 70% and 75% for fiber. There are good reasons why that is so.

BellSouth's analyses indicate that the most economic feeder cable deployment alternative is to size the cable to meet between seven and ten years of demand. That means that in a relatively constant growth rate environment, we would reinforce a feeder cable route every ten years or so. So, why isn't the utilization rate at 100% if cable is sized for seven to ten year demand? The reasons are several. First, actual growth is never constant. A feeder cable sized for ten year demand in 1987 may or may not have achieved the forecasted demand by 1997. If demand moved faster than the forecast, relief may have occurred earlier than anticipated and, as such, caused the utilization rate on that feeder to lower with the availability of more pairs on additional cable diluting the original feeder cable utilization rate. Also, growth may not have transpired according to prediction, resulting, again in a lower than anticipated utilization rate.

Secondly, some pairs or fibers in a feeder cable may be unusable because of defects. This obviously lowers the utilization rate on that cable.

Finally, cable only comes in so many sizes. BellSouth has to consider the economic efficiency of standardizing on certain size cables. This can sometimes result in the placement of more pairs or fibers than are needed because of available packaging. The greater economic necessity is served though the individual feeder utilization rate may suffer slightly.

The results of the factors I have described above have caused BellSouth's feeder utilization rates to run approximately 70% for copper and 75% for fiber feeder for many years. Exhibit DMB-1 to my testimony demonstrates that BellSouth has a better than average utilization rate as compared to other RBOCs. I do not expect these factors to change dramatically over time.

In the case of distribution utilization, BellSouth will place a distribution cable down a street according to the number of forecasted units to be served and the number of projected lines per unit. Now, since cable only comes in certain sizes, an exact match of cable size to pairs forecasted may never take place. This begins the creation of less than 100% utilization.

The lessening of the fill factor goes on from that point. Take this example for instance. A new distribution route is required to serve a new subdivision. The subdivision will provide homes for 25 families. It will consist of one main street with 7 houses and three side streets with 6 houses each.

BellSouth's review and sizing of this new route would be to place 1.5 pairs for each living unit. (As an aside, 1.5 pairs per living unit is the BellSouth default where specific requirements are not known. The number can be less or more.) In order to do so, a 25 pair cable would have to be placed down each street. So what happens to utilization with this example?

First of all, you start out with 1.5 pairs per unit calculating out to 10.5 pairs on the main street and 9 pairs on the side streets. So you start with an approximate average 37.5% utilization factor if all pairs are occupied. If only one house per street acquires any additional line service, the factor lowers even more since that 1.5 pair per unit doesn't get used by every unit. Also, some families move out and others move into the subdivision, causing churn in the pairs and some pairs become defective. All of these instances effect the fill on that cable. So it's easily seen that, in the distribution, fill factors are lowered by a variety of situations. Those factors are:

-The very frequent mismatch between cable sizes and houses on a street.

-The need to account for future demand without the expense and disruption of deploying more facilities.

-*The probability of defective pairs.*

-The need to account for churn requirements.

BellSouth has found that these utilization limiting factors are constant in most cases, particularly in the distribution environment. It should be noted that even with growth in additional line requirements, ALEC demand for unbundled loops will cause even more churn for BellSouth's facilities. In BellSouth, *one in five access* lines disconnect or move at a given location. That activity doesn't always occur concurrently. In placing cable, consideration also has to be given to churn and sufficient pairs must be available to handle dual or nonconcurrent service activity which is likely to increase with the presence of multiple Local Exchange Companies. As a result, cable sizing requirements will increase, and thus help ensure that utilization factors will remain relatively constant.

While we do not measure our fill factor at the individual route level, the examples I have provided demonstrate how these experiences clearly affect our overall fill factor even when measured at a more aggregate level. In short, our experience has shown that our actual distribution plant, on average, has a "fill" factor of about 40% and our actual feeder plant has a "fill" factor of 70% for copper and 75% for fiber. There is no reason to believe that our experience in the future will be different

Q. PLEASE EXPLAIN THE DIFFERENCE BETWEEN "OBJECTIVE" AND "ACTUAL" FILL FACTORS.

A. You have to understand the difference between an "objective" fill factor and the "actual" fill factor in order to appreciate why it is appropriate to use projections of the actual fill factors in cost studies. Consider for example a central office switch approaching exhaust. Eventually, the switch completely exhausts, and does not have the capacity to add a single customer. If the company waits until the day that happens, some folks are going to be without telephone service for a long time. Therefore, we don't wait until plant is exhausted to plan its replacement or expansion. Instead, we set a target and when we reach that target, we begin planning to replace or expand the facility in question. For instance, we may know that when a switch hits 90% of its ultimate capacity, we had better have a second switch ready to turn on. In order to accomplish that, we may have to begin when that first switch hits 70% capacity, because of the lead times involved. Those targets, the objective fill factors that we plan for, are just that, targets. They do not represent the level at which the network is operating. In fact, in my example, where one switch was either replaced or expanded, the actual utilization rate would vary widely depending on the date the utilization was checked. On the day of exhaust, the switch would be operating at 100%. On the day after, the replacement switch or the expanded switch, could be operating at 50% or lower.

Q. PLEASE SUMMARIZE YOUR POINTS REGARDING UTILIZATION FACTORS?

A. I have looked at the Florida state feeder and distribution utilization factors for BellSouth. (They are 65.70 for copper feeder, 38.80 for copper distribution, and 74.0 for fiber feeder.) They are reasonable and represent what I believe that our utilization factors will be in the future. The Commission knows, of course, and other parties to the proceeding should know as well that we have not planned our network and the utilization factors we have in order to increase or decrease our costs to new entrants in the local telephone service arena. We have planned our networks to serve our customers efficiently and effectively and that fact is reflected in our utilization factors.

Q. CAN YOU PROVIDE SOME ADDITIONAL INFORMATION ON WHY BELLSOUTH USES A MINIMUM SIZE CABLE OF 25 PAIRS?

A. Yes. BellSouth has determined that 25 pair cable is the most economically efficient cable size to use in our network. Savings from standardizing to a 25 pair minimum rather using a variety of smaller sizes provides BellSouth with the ability to gain economies of scale when negotiating with cable vendors. Additionally, savings are accrued from reduced inventory and warehousing needs and reduced training and administrative costs.

Instead of making the loop less expensive, using a smaller size could lead to higher costs. The truth is that one-sixth of a six pair cable is more expensive that one-twenty fifth of a 25 pair cable. Frankly, the major cost is the installation of the cable. In that light, BellSouth finds it more economic to lay enough cable the first time to serve forecasted future demand, thus preventing further digging up of streets and driveways and saving the costs such activity would incur. Finally, not only are smaller cable sizes more expensive, but because they use coarser gauge wire, we consider them inappropriate to a forward looking design.

Q. ARE THERE DEVICES AVAILABLE TO RAISE UTILIZATION RATES?

A. Yes. Specifically, the Digital Additional Main Line or DAML is frequently mentioned for utilization rate increases by allowing the placement of smaller distribution cables. The assertion that DAML is more economical than provisioning additional cable pairs is only true on a selected basis. DAML is less expensive if demand is only temporary. If demand is permanent and ongoing, the correct solution is to size the distribution cable to provide for the projected demand.

Q. PLEASE EXPLAIN WHAT "BRIDGED TAP" IS AND HOW IT IS REFLECTED IN THE NETWORK?

A. We have attempted to engineer our existing network in the most efficient manner and presumably we and others will do the same in the future. This means that we will do things that at first blush may seem confusing. "Bridged tap" is one of those things, although I understand that even AT&T has agreed that a reasonable amount of "bridged tap" in the network is necessary.

Simply stated, "bridged tap" refers to that situation where a cable pair exists in two different locations. The pair of wires can be used in either location, but not in both. The unused portion of the pair is called "bridged tap".

A common example of where this occurs is in a subdivision. To illustrate how this occurs, imagine a subdivision that has a main street, with 20 houses, and a cross street that runs off of and perpendicular to the main street so that the streets form a "T". For our purposes, we will assume the cross street has another 20 homes on it. A hundred pair distribution cable might be run down the main street in front of all of the houses on the main street. At the cross street, a second fifty pair distribution cable might be "tapped" into the first cable. That is, at the cross street, a fifty pair cable might be multipled onto the hundred pair cable that runs down the main street of the subdivision. If the cable pairs in the 100 pair cable are numbers 1 to 100, it should be easy to see that 50 of the pairs that enter the subdivision run the length of the main street and the length of the cross street. If a pair is used at the first house on the cross street, it obviously cannot be used further on down the main street beyond the point where the multiple was made. The portion beyond the splice is "bridged tap". On the other hand, if the house on the cross street disconnects its service, the pair is freed up and a subscriber who lives on the main street beyond the multiple could then use the pair. In such circumstances, it is clearly preferable to have a reasonable amount of "bridged tap" than to have to run a second cable from the central office to serve the cross street.

Some might say that tapering and splicing cable to serve the cross street would be more efficient. That isn't necessarily the case. Opening the sheath, cutting the cable and splicing the new cable are not free. As well, costs are incurred in training, warehousing and inventorying splicing equipment and in the maintenance of those splices. Bridged tap reduces the need for these expenditures where it can be used.

This example also can be used to illustrate another form of "bridged tap". When a cable pair is used to serve the first house in the subdivision, that cable pair continues to exist in the 100 pair cable beyond the point where the first house's drop wire is spliced. However, it is clear that the additional length of the already utilized cable pair cannot be used again. This is actually called "end tap" and, as can be seen, is unavoidable.

Our planning involves a reasonable amount of both types of "bridged tap". It is unavoidable, and in the case of my first example, is actually desirable in many cases, since it avoids the necessity of building additional plant to serve our customers.

Q. THE STUDY ASSUMES THAT AERIAL CABLE DROP LENGTH IS AN AVERAGE 250 FEET AND BURIED CABLE DROPS ARE AN AVERAGE OF 200 FEET. CAN YOU EXPLAIN WHERE THESE FIGURES CAME FROM?

A. Yes. These assumptions were derived via a review by a BellSouth Subject Matter Expert (See Exhibit DMB-2 for a list of BellSouth SMEs providing assumptions to the cost study) of the average length of aerial and buried drops in the states of the BellSouth region. The method used to acquire this information consisted of contacting the Installation and Maintenance Managers in the state for information based on their knowledge of the areas they serve These managers are responsible for the installation of drop wire and would have the best working knowledge of average lengths without actually measuring individual drops. The Subject Matter Expert averaged their responses and provided a state total. Additionally, for buried service wire, the BellSouth group that administers master contracts for burying the drop was consulted and provided footage information from those contracts as a cross check. The assumptions therefore were developed from actual BellSouth information that considered the variety of demographics for drops in the region.

Drop wire really only comes into play at the residential and small business level. Apartment buildings , strip shopping centers, malls and office buildings don't have drop wire. Obviously, in residential areas, drop length will vary. In Florida, a fair amount of the state is rural. The same is true of a great deal of the BellSouth region. BellSouth chose to use state statistics rather than use old loop surveys covering the entire nation. Any calculation using national data like that supplied by the 1983 loop survey made available from Bellcore that includes the New York City, Boston, Los Angeles and Chicago will reflect drop lengths heavily influenced by dense metropolitan environments. A more rural environment, by its nature, contains drops that can be quite long. Additionally, even suburban areas are not made up of 100% quarter acre lots and houses next to the street. Other assumptions used by other models, such as houses and buildings being place closer to the front of a lot to mitigate snow removal, simply don't apply in Florida as it might in New York or Illinois.

I believe that the drop lengths reflect in BellSouth's unbundled loop study accurately reflect the demographics of Florida. Additionally, I believe that there is no basis to conclude that length of these drops would be expected to change in the future. While changes in demographics will occur over time, it is highly unlikely that such changes will be apparent within the "long run" element of this study.

Q. HOW DOES THE STUDY HANDLE ADSL/HDSL?

A. The assumption used in the network design for this cost study is that only the transmission facility will be provided. Using a transmission facility only assumption limits the provisioning of ADSL/HDSL to compatible loops of 100% copper at a distance from the central office of 9 kilofeet for HDSL and 18 kilofeet for ADSL. The assumption is that BellSouth will provide the copper pairs where available, and it will be up to the service provider to install the necessary equipment to provide the ADSL/HDSL capability. This approach allows a requesting service provider the least complicated access to the customer as far as costs for the loop. I must make an important point here. These types of loops are not standard loops and may require substantial non-recurring costs to provision. Any offering of such loops must make provision for the substantial non-recurring costs associated with these kinds of loops.

Q. ARE THERE OTHER ISSUES THAT NEED TO BE MADE CLEAR IN SO FAR AS THE STUDY ASSUMPTIONS ARE CONCERNED?

A. Yes, there are a few more. I will handle these by topic as follows:

STRUCTURE:

Some cost study models assume that sharing of structures such as poles, conduit and trenches occurs 100% of the time. This is a ludicrous assumption. It is in BellSouth's best interest to share structure because it is the most economic course of action. We have official practices on how to provide shared structure. It isn't, however, the most practical or possible course all the time.

In the case of trenching, timing is a prevailing issue. In a multitude of developments, power is required up front, so the electric utility company comes in early and digs trenches to bury its facilities. For BellSouth it would be a poor economic decision to place investment that will not be used just to joint trench.

Joint use of poles is the most prevalent arrangement. Even in this arena, joint use may not always be possible. In the case of joint use with a power company, high voltage lines eliminate the possibility due to the interference they cause to telecommunications. If the company owning the pole must make costly adjustments to accommodate a sharing utility, the cost would be passed along to the requester and may not make the shared use an economic choice. With the Telecommunications Act, the cost of any rearrangement must be born by the cost-causer and may eliminate sharing on the basis of economics.

Conduit is a third possible sharing arrangement. Customarily, BellSouth has owned the vast majority of conduit it uses. Although power companies own conduit, safety issues preclude most sharing possibilities. Until the advent of ALECs, telecommunication utilities sharing has not been in great demand. BellSouth allows sharing in conduits we own only with other communications carriers.

<u>BUILDING ENTRANCE TERMINALS:</u>

Although unexposed plant should not require costly station protection, it is very difficult to determine positively that no exposure to electrical interference (lightening or power contact) exists. In a very metropolitan environment where everything is underground, it may be possible to leave off station protection. In most cases, in my opinion, it is better to be safe than sorry. BellSouth has an obligation to protect its customers, their service, our craftspeople and our equipment from damage stemming from such exposure. One would assume that an ALEC would have the same desire.

<u>MULTIPLE VENDORS:</u>

Certain ALECs contend that BellSouth should always provide prices for technology used in its cost study from the least cost vendor. If we were pricing a hypothetical fairy tale network, that would be an appropriate method. We are not doing any such thing. We are providing costs for an unbundled network element based on a forward looking narrowband network design. It is inappropriate to suppose that the least cost vendor is always satisfactory from a technological perspective.

In the same vein, the use of multiple vendors is an appropriate activity. It would be imprudent of BellSouth to participate in exclusive vendor relationships when multiple vendors allow better price leverage and greater ability to meet technological demand.

<u>REMOTES PER OC3 RING:</u>

An average of ten remotes has been quoted by the ALECs as the appropriate assumption for the number of remotes on an OC-3 Ring. In fact, in some instances that may well be true. In other instances, all the capacity is used up at the first node, precluding any additional. It is BellSouth's experience that an <u>average</u> of three nodes is appropriate for the design of this loop cost study.

<u>SIX VS FOUR FIBER SONET RINGS</u>:

BellSouth's six fiber SONET Ring design considers the needs of our customers to have continuous quality service. With two fibers to transmit, two fibers to receive and two fibers for system upgrades and rapid service restoral, we can assure this fact. One would think that a competitive environment would require this type of service assurance to attract and keep subscribers. BellSouth considers such a design to be part of a forward looking cost effective narrowband network.

EXPENSIVE OPTICAL LINE INTERFACE UNITS:

It has been stated that BellSouth uses the most expensive Optical LineInterface Unit (OLIU) Card for the Lucent DDM2000 OC-3 SONET multiplexer. While it is true that the long range OLIU card is not always necessary in the loop, there are very good reasons to use it. First the difference in material price at a DS0 level is very small. In the DDM2000 system, the difference is an additional $.12 per card or $.24 for the two cards the system requires. For the Fujitsu FLM-150 system, there is no difference in material price between intermediate and long range optic cards. For the LiteSpan 2000 system, the material price is an additional $1.09 at the DS0 level.

In addition to these small price differences, there are significant advantages to stocking only one card that can be used for all applications. Inventory and stocking procedures are simplified which reduces costs. Installation, testing and maintenance are also made much easier when only one type of OLIU is required.

HIGH PRICED DS1 PLUG-IN CARDS:

Certain ALECs have asserted that BellSouth selected the highest priced DS1 plug-in card for the DDM2000 thus inflating the multiplexer investment. The same situation as that found in the OLIU requirement applies here; stocking and inventory procedures are simplified with use of one type of card causing a reduction in costs. There are also maintenance reasons for using these particular cards. These cards are equipped for performance monitoring. Availability of such a feature minimizes service outages and reduces dispatch time for service technicians. While the price difference at the DS0 level between the two cards is $3.26 for the DDM2000, it is only $.75 for Fujitsu equipment. Finally, Fujitsu is considering not offering the DS1 card.

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. My testimony has described the network design used as the infrastructure basis in the unbundled network element cost studies, defined certain complex technical terminology, provided the basis for the use of that technology, and discussed certain assumptions about infrastructure design that have been misunderstood by some.

The design of the infrastructure and the assumptions relating to that design are founded on well understood industry principles of engineering. The assumptions and methodology are consistent with the requirements of cost studies in general and provide the most efficient technology available for the provision of a reliable narrowband telecommunications network.

Q. DOES THAT CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

EXHIBIT NO. DMB-1

RBOC	Working Facilities	Available Equipped Facilities	Total Feeder Utilization
Ameritech	19,714,345	31,957,236	61.69%
Bell Atlantic	23,514,796	56,613,562	41.54%
BellSouth	**24,682,894**	**36,022,283**	**68.52%**
Nynex	20,176,270	33,494,241	60.24%
Pacific Telesis	16,124,521	17,495,721	92.16%
Southwestern B	15,917,610	23,990,229	66.35%
US West	15,347,150	24,246,870	63.30%

data name	source	District Manager
Utilization Percent: Cable Rack for Cable Support Structure	Bill McAllister	ZIER,E M
I.3.1 Application Cost - Circuit Capacity Management Disconnect	Bill McAllister	ZIER,E M
Utilization Percent: Cable Rack for Cable Support Structure	Bill McAllister	ZIER,E M
I.3.1 Application Cost - Circuit Capacity Management Install First	Bill McAllister	ZIER,E M
I.3.1 Application Cost - Circuit Capacity Management Disconnect	Bill McAllister	ZIER,E M
I.3.1 Application Cost - Circuit Capacity Management Install First	Bill McAllister	ZIER,E M
2-Wire Analog DID Trunk Port-CPG Engineering-Disconnect 1st	Bob Warren	HASKEW,JOHN R
4-Wire ISDN DS1 Digital Trunk Port-CPG Engineering-Disconnect	Bob Warren	HASKEW,JOHN R
4-Wire Analog Voice Grade Port-CPG Engineering-Disconnect 1st	Bob Warren	HASKEW,JOHN R
4-Wire Analog Voice Grade Port-CPG Engineering-Disconnect	Bob Warren	HASKEW,JOHN R
2-Wire ISDN Digital Line Side Port-CPG Engineering-Disconnect	Bob Warren	HASKEW,JOHN R
2-Wire ISDN Digital Line Side Port-CPG Engineering-Install Add.	Bob Warren	HASKEW,JOHN R
2-Wire ISDN Digital Line Side Port-CPG Engineering - JFC	Bob Warren	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-CPG Engineering-JFC	Bob Warren	HASKEW,JOHN R
4-Wire ISDN Digital Trunk Port-CPG Engineering-Disconnect 1st	Bob Warren	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-CPG Engineering-Install Add.	Bob Warren	HASKEW,JOHN R
4-Wire ISDN DS1 Digital Trunk Port-CPG Engineering-Install 1st	Bob Warren	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-CPG Engineering-Disconnec Add.	Bob Warren	HASKEW,JOHN R
2-Wire ISDN Digital Line Side Port-CPG Engineering-Install 1st	Bob Warren	HASKEW,JOHN R
2-Wire ISDN Digital Line Side Port-CPG Engineering-Disconnect	Bob Warren	HASKEW,JOHN R
4-Wire Analog Voice Grade Port-CPG Engineering - JFC	Bob Warren	HASKEW,JOHN R
4-Wire Analog Voice Grade Port-CPG Engineering-Install 1st	Bob Warren	HASKEW,JOHN R
4-Wire ISDN DS1 Digital Trunk Port-CPG Engineering - JFC	Bob Warren	HASKEW,JOHN R
4-Wire Analog Voice Grade Port-CPG Engineering-Install Add.	Bob Warren	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-CPG Engineering-Install 1st	Bob Warren	HASKEW,JOHN R
4-Wire ISDN DS1 Digital Trunk Port-CPG Engineering-Install Add.	Bob Warren	HASKEW,JOHN R
L.1 Service Order - WMC - Install/Disconnect Addl	Carlton/E. Landry	MUNIZ,CARLOS A
L.1 Service Order - WMC - Install/Disconnect 1st	Carlton/E. Landry	MUNIZ,CARLOS A
L.2 Service Order - WMC - Install/Disconnect 1st	Carlton/E. Landry	MUNIZ,CARLOS A
SL.1Service Order - WMC - Install/Disconnect Add.	Carlton/E. Landry	MUNIZ,CARLOS A
SL.2 Service Order - WMC - Install/Disconnect Addl	Carlton/E. Landry	MUNIZ,CARLOS A
SL.2 Service Order - WMC - Install/Disconnect 1st	Carlton/E. Landry	MUNIZ,CARLOS A
SL.1Service Order - WMC - Install/Disconnect 1st	Carlton/E. Landry	MUNIZ,CARLOS A
L.2 Service Order - WMC - Install/Disconnect Addl	Carlton/E. Landry	MUNIZ,CARLOS A
L.3 Service Order - WMC - Install/Disconnect Addl	Carlton/T. June	MUNIZ,CARLOS A
L.3 Service Order - WMC - Install/Disconnect 1st	Carlton/T. June	MUNIZ,CARLOS A
F.2 LIDB ISUP Octets per message	Charles Martin	SHORES,JOAN R
F.2 LIDB Ratio ISUP Octets to total	Charles Martin	SHORES,JOAN R
F.2 LIDB Utilization (Eng. Guideline)	Charles Martin	SHORES,JOAN R
F.2 LIDB Ratio TCAP Octets to total	Charles Martin	SHORES,JOAN R
F.2 LIDB TCAP Octets per message	Charles Martin	SHORES,JOAN R
Buried Drop Contractor$	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Travel Time	Chuck Edwards	MUNIZ,CARLOS A
Job Function Code	Chuck Edwards	MUNIZ,CARLOS A
NID Material $ (1-6 pair)	Chuck Edwards	MUNIZ,CARLOS A
Job Function Code - Buried Drop	Chuck Edwards	MUNIZ,CARLOS A
Job Function Code - Aerial Drop	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Telco - Install & Terminate Time	Chuck Edwards	MUNIZ,CARLOS A
Install NID Time	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Average Length	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Travel Time	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Material $ (5-pair)	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Telco - Install & Terminate Time	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Contractor$	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Exempt Material $	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Travel Time	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Travel Time	Chuck Edwards	MUNIZ,CARLOS A
Job Function Code	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Average Length	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Material $ (2-pair)	Chuck Edwards	MUNIZ,CARLOS A

Install NID Time	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Telco - Install & Terminate Time	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Average Length	Chuck Edwards	MUNIZ,CARLOS A
Job Function Code - Aerial Drop	Chuck Edwards	MUNIZ,CARLOS A
Job Function Code - Buried Drop	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Exempt Material $	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Number of Pairs	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Contractor$	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Exempt Material $	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Average Length	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Material $ (5-pair)	Chuck Edwards	MUNIZ,CARLOS A
Job Function Code - Buried Drop (Note 2)	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Material $ (2-pair)	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Contractor$	Chuck Edwards	MUNIZ,CARLOS A
NID Material $ (1-6 pair)	Chuck Edwards	MUNIZ,CARLOS A
Install NID Time (Note 2)	Chuck Edwards	MUNIZ,CARLOS A
NID Material $ (1-6 pair) (Note 2)	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Travel Time - NID (Note 2)	Chuck Edwards	MUNIZ,CARLOS A
Material-Interface - 2nd Pair NID (Note 2)	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Number of Pairs	Chuck Edwards	MUNIZ,CARLOS A
Material-Protector - 2nd Pair NID (Note 2)	Chuck Edwards	MUNIZ,CARLOS A
Job Function Code (Note 2)	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Telco - Install & Terminate Time	Chuck Edwards	MUNIZ,CARLOS A
Buried Drop Number of Pairs	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Number of Pairs	Chuck Edwards	MUNIZ,CARLOS A
Aerial Drop Exempt Material $	Chuck Edwards	MUNIZ,CARLOS A
2-Wire ISDN Digital Line Side Port-CO Install&Mtce-Ckt.&Fac-JFC	Dan Stinson	MUNIZ,CARLOS A
4-Wire ISDN DS1 Digital Trunk Port-CO Install&Mtce-Ckt&Fac-	Dan Stinson	MUNIZ,CARLOS A
4-Wire ISDN DS1 Digital Trunk Port-CO Install&Mtce-Ckt&Fac-	Dan Stinson	MUNIZ,CARLOS A
4-Wire Analog Voice Grade Port-CO Install&Mtce-Ckt&Fac-	Dan Stinson	MUNIZ,CARLOS A
4-Wire Analog Voice Grade Port-CO Install&Mtce-Ckt&Fac-	Dan Stinson	MUNIZ,CARLOS A
2-Wire ISDN Digital Line Side-CO Install&Mtce-Ckt&Fac-	Dan Stinson	MUNIZ,CARLOS A
2-Wire Analog Line Port-CO Install&Mtce-Ckt&Fac-Disconnect 1st	Dan Stinson	MUNIZ,CARLOS A
2-Wire Analog DID Trunk Port-CO Install&Mtce-Ckt&Fac-	Dan Stinson	MUNIZ,CARLOS A
2-Wire Analog DID Trunk Port-CO Install&Mtce-Ckt&Fac-	Dan Stinson	MUNIZ,CARLOS A
2-Wire Analog Line Port-CO Install&Mtce-Ckt&Fac-Disconnect	Dan Stinson	MUNIZ,CARLOS A
2-Wire ISDN Digital Line Side-CO Install&Mtce-Ckt&Fac-	Dan Stinson	MUNIZ,CARLOS A
I.3.18 Security Escort - Basic, Per Half Hour CO Install & Mtce	Dan Stinson	MUNIZ,CARLOS A
4-Wire ISDN DS1 Digital Trunk Port-CO Install&Mtce-Ckt.&Fac-	Dan Stinson	MUNIZ,CARLOS A
4-Wire Analog Voice Grade Port-CO Install&Mtce-Ckt.&Fac-JFC	Dan Stinson	MUNIZ,CARLOS A
2-Wire Analog DID Trunk Port-CO Install&Mtce-Ckt.&Fac-JFC	Dan Stinson	MUNIZ,CARLOS A
2-Wire Analog Line Port-CO Install&Mtce-Ckt.&Fac-JFC	Dan Stinson	MUNIZ,CARLOS A
2-Wire Analog DID Trunk Port-CO Install&Mtce-Ckt&Fac-Install	Dan Stinson	MUNIZ,CARLOS A
I.3.18 Security Escort - Basic, Per Half Hour CO Install & Mtce	Dan Stinson	MUNIZ,CARLOS A
I.3.19 Security Escort - Overtime, Per Half Hour CO Install &	Dan Stinson	MUNIZ,CARLOS A
I.3.19 Security Escort - Overtime, Per Half Hour CO Install &	Dan Stinson	MUNIZ,CARLOS A
I.3.20 Security Escort - Premium, Per Half Hour CO Install & Mtce	Dan Stinson	MUNIZ,CARLOS A
4-Wire ISDN DS1 Digital Trunk Port-CO Install&Mtce-Ckt&Fac-	Dan Stinson	MUNIZ,CARLOS A
4-Wire ISDN DS1 Digital Trunk Port-CO Install&Mtce-Ckt&Fac-	Dan Stinson	MUNIZ,CARLOS A
4-Wire Analog Voice Grade Port-CO Install&Mtce-Ckt&Fac-Install	Dan Stinson	MUNIZ,CARLOS A
4-Wire Analog Voice Grade Port-CO Install&Mtce-Ckt&Fac-Install	Dan Stinson	MUNIZ,CARLOS A
2-Wire ISDN Digital Line Side Port-CO Install&Mtce-Ckt&Fac-	Dan Stinson	MUNIZ,CARLOS A
2-Wire ISDN Digital Line Side Port-CO Install&Mtce-Ckt&Fac-	Dan Stinson	MUNIZ,CARLOS A
2-Wire Analog Line Port-CO Install&Mtce-Ckt&Fac-Install Add.	Dan Stinson	MUNIZ,CARLOS A
2-Wire Analog Line Port-CO Install&Mtce-Ckt&Fac-Install 1st	Dan Stinson	MUNIZ,CARLOS A
2-Wire Analog DID Trunk Port-CO Install&Mtce-Ckt&Fac-Install	Dan Stinson	MUNIZ,CARLOS A
I.3.20 Security Escort - Premium, Per Half Hour CO Install & Mtce	Dan Stinson	MUNIZ,CARLOS A
I.3.18 Security Escort - Basic, Per Half Hour CO Install & Mtce	Dan Stinson	MUNIZ,CARLOS A
I.3.18 Security Escort - Basic, Per Half Hour CO Install & Mtce	Dan Stinson	MUNIZ,CARLOS A
I.3.20 Security Escort - Premium, Per Half Hour CO Install & Mtce	Dan Stinson	MUNIZ,CARLOS A
I.3.20 Security Escort - Premium, Per Half Hour CO Install & Mtce	Dan Stinson	MUNIZ,CARLOS A

I.3.19 Security Escort - Overtime, Per Half Hour CO Install &	Dan Stinson	MUNIZ,CARLOS A
I.3.19 Security Escort - Overtime, Per Half Hour CO Install &	Dan Stinson	MUNIZ,CARLOS A
F.1 800 Access Queries for 1996	David Finn	MCLAUGHLIN,R L
2-Wire Analog DID Trunk Port-LNA-Disconnec Add.	Elaine Billie	CHARLES,WILLIAM
2-Wire Analog DID Trunk Port-LNA-Disconnect 1st	Elaine Billie	CHARLES,WILLIAM
2-Wire Analog DID Trunk Port-LNA-Install 1st	Elaine Billie	CHARLES,WILLIAM
2-Wire Analog DID Trunk Port-LNA-Install Add.	Elaine Billie	CHARLES,WILLIAM
4-Wire ISDN DS1 Digital Trunk Port-LNA-JFC	Elaine Billie	CHARLES,WILLIAM
4-Wire Analog Voice Grade Port-LNA-JFC	Elaine Billie	CHARLES,WILLIAM
2-Wire ISDN Digital Line Side Port-LNA-JFC	Elaine Billie	CHARLES,WILLIAM
2-Wire Analog Line Port-LNA-JFC	Elaine Billie	CHARLES,WILLIAM
2-Wire Analog Line Port-LNA-Install 1st	Elaine Billie	CHARLES,WILLIAM
2-Wire Analog DID Trunk Port-LNA-JFC	Elaine Billie	CHARLES,WILLIAM
2-Wire ISDN Digital Line Side Port-LNA-Install 1st	Elaine Billie	CHARLES,WILLIAM
2-Wire ISDN Digital Line Side Port-LNA-Disconnect 1st	Elaine Billie	CHARLES,WILLIAM
2-Wire ISDN Digital Line Side Port-LNA-Install Add.	Elaine Billie	CHARLES,WILLIAM
4-Wire Analog Voice Grade Port-LNA-Install Add.	Elaine Billie	CHARLES,WILLIAM
4-Wire Analog Voice Grade Port-LNA-Install 1st	Elaine Billie	CHARLES,WILLIAM
4-Wire Analog Voice Grade Port-LNA-Disconnect Add.	Elaine Billie	CHARLES,WILLIAM
4-Wire Analog Voice Grade Port-LNA-Disconnect 1st	Elaine Billie	CHARLES,WILLIAM
2-Wire Analog Line Port-LNA-Install Add.	Elaine Billie	CHARLES,WILLIAM
2-Wire ISDN Digital Line Side Port-LNA-Disconnect Add.	Elaine Billie	CHARLES,WILLIAM
2-Wire Analog Line Port-LNA-Disconnect 1st	Elaine Billie	CHARLES,WILLIAM
2-Wire Analog Line Port-LNA-Disconnect Add.	Elaine Billie	CHARLES,WILLIAM
2-Wire Analog Line Port-RCMAG-Install Add.	Frank Eberle	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-RCMAG-JFC	Frank Eberle	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-RCMAG-Disconnec Add.	Frank Eberle	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-RCMAG-Disconnect 1st	Frank Eberle	HASKEW,JOHN R
2-Wire Analog Line Port-RCMAG-Disconnect 1st	Frank Eberle	HASKEW,JOHN R
2-Wire Analog Line Port-RCMAG-Disconnect Add.	Frank Eberle	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-RCMAG-Install 1st	Frank Eberle	HASKEW,JOHN R
4-Wire Analog Voice Grade Port-RCMAG-Disconnect Add.	Frank Eberle	HASKEW,JOHN R
2-Wire Analog Line Port-RCMAG-Install 1st	Frank Eberle	HASKEW,JOHN R
4-Wire Analog Voice Grade Port-RCMAG-JFC	Frank Eberle	HASKEW,JOHN R
4-Wire Analog Voice Grade Port-RCMAG-Install Add.	Frank Eberle	HASKEW,JOHN R
4-Wire Analog Voice Grade Port-RCMAG-Disconnect 1st	Frank Eberle	HASKEW,JOHN R
2-Wire Analog Line Port-RCMAG-JFC	Frank Eberle	HASKEW,JOHN R
4-Wire Analog Voice Grade Port-RCMAG-Install 1st	Frank Eberle	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-RCMAG-Install Add.	Frank Eberle	HASKEW,JOHN R
L.2 Travel - SSIM - Install Addl -2W Design	Guilbeau/E. Landry	MUNIZ,CARLOS A
L.2 Travel - SSIM - Disconnect 1st/Addl -2W Design	Guilbeau/E. Landry	MUNIZ,CARLOS A
SL.1Connect & Turn Up - I&M - Install 1st/Addl	Guilbeau/E. Landry	MUNIZ,CARLOS A
L.2 Connect & Turn-Up - I&M - Disconnect 1st/Addl - 2W	Guilbeau/E. Landry	MUNIZ,CARLOS A
L.2 Service Order - SSIM - 2W Designed - Install/Disconnect Addl	Guilbeau/E. Landry	MUNIZ,CARLOS A
L.2 Connect & Turn-Up - SSIM - Disconnect 1st/Addl - 2W	Guilbeau/E. Landry	MUNIZ,CARLOS A
L.2 Service Order - SSIM - 2W Designed - Disconnect 1st	Guilbeau/E. Landry	MUNIZ,CARLOS A
SL.1Travel - I&M Dispatched - Install/Disconnect Addl	Guilbeau/E. Landry	MUNIZ,CARLOS A
L.2 Travel - I&M - Install Addl -2W Nondesign	Guilbeau/E. Landry	MUNIZ,CARLOS A
L.2 Travel - I&M - Disconnect 1st/Addl -2W Nondesign	Guilbeau/E. Landry	MUNIZ,CARLOS A
SL.1Connect & Turn Up - I&M - Disconnect 1st/Addl	Guilbeau/E. Landry	MUNIZ,CARLOS A
SL.1Travel - I&M Dispatched - Install/Disconnect 1st	Guilbeau/E. Landry	MUNIZ,CARLOS A
SL.1Service Order -I&M - Install/Disconnect 1st	Guilbeau/E. Landry	MUNIZ,CARLOS A
L.2 Travel - SSIM - Install 1st -2W Design	Guilbeau/E. Landry	MUNIZ,CARLOS A
L.2 Service Order - SSIM - 2W Designed - Install 1st	Guilbeau/E. Landry	MUNIZ,CARLOS A
L.2 Connect & Turn-Up - I&M - Install 1st/Addl -2W Nondesign	Guilbeau/E. Landry	MUNIZ,CARLOS A
SL.1Service Order - I&M - Install/Disconnect Addl	Guilbeau/E. Landry	MUNIZ,CARLOS A
L.2 Travel - I&M - Install 1st -2W Nondesign	Guilbeau/E. Landry	MUNIZ,CARLOS A
L.3 Travel - I&M - Disconnect 1st/Addl	Guilbeau/T. June	MUNIZ,CARLOS A
L.3 Connect & Turn-Up - I&M - Disconnect 1st/Addl	Guilbeau/T. June	MUNIZ,CARLOS A
L.3 Connect & Turn-Up - I&M - Install 1st/Addl	Guilbeau/T. June	MUNIZ,CARLOS A
L.3 Travel - I&M - Install 1st	Guilbeau/T. June	MUNIZ,CARLOS A

L.3 Travel - I&M - Install Addl	Guilbeau/T. June	MUNIZ,CARLOS A
SL.2 Travel - SSIM - Disconnect 1st	Hulsey/E. Landry	MUNIZ,CARLOS A
L.2 Connect & Turn-Up - SSIM - Install 1st/Addl -4W Voice	Hulsey/E. Landry	MUNIZ,CARLOS A
SL.2 Connect & Turn-Up - SSIM - Install 1st/Addl	Hulsey/E. Landry	MUNIZ,CARLOS A
L.2 Connect & Turn-Up - SSIM - Install 1st/Addl - ISDN	Hulsey/E. Landry	MUNIZ,CARLOS A
SL.2 Service Order - SSIM - Install/Disconnect Addl	Hulsey/E. Landry	MUNIZ,CARLOS A
SL.2 Service Order - SSIM - Disconnect 1st	Hulsey/E. Landry	MUNIZ,CARLOS A
L.2 Service Order - SSIM - 4W Designed & ISDN -	Hulsey/E. Landry	MUNIZ,CARLOS A
SL.2 Connect & Turn-Up - SSIM - Disconnect 1st/Addl	Hulsey/E. Landry	MUNIZ,CARLOS A
L.2 Travel - SSIM - Install/Disconnect Addl - ISDN, 4W Voice	Hulsey/E. Landry	MUNIZ,CARLOS A
SL.2 Travel - SSIM - Install/Disconnect Addl	Hulsey/E. Landry	MUNIZ,CARLOS A
L.2 Connect & Turn-Up - SSIM - Install 1st/Addl -2W Designed	Hulsey/E. Landry	MUNIZ,CARLOS A
L.2 Connect & Turn-Up - SSIM - Disconnect 1st/Addl - ISDN	Hulsey/E. Landry	MUNIZ,CARLOS A
L.1 Travel - SSIM Technician Dispatched - Install/Disconnect 1st	Hulsey/E. Landry	MUNIZ,CARLOS A
L.2 Travel - SSIM - Install/Disconnect 1st - ISDN, 4W Voice	Hulsey/E. Landry	MUNIZ,CARLOS A
L.1 Service Order - SSIM - Install/Disconnect 1st	Hulsey/E. Landry	MUNIZ,CARLOS A
L.2 Service Order - SSIM - 4W Designed & ISDN -	Hulsey/E. Landry	MUNIZ,CARLOS A
SL.2 Service Order - SSIM - Install 1st	Hulsey/E. Landry	MUNIZ,CARLOS A
L.1 Service Order - SSIM - Install/Disconnect Addl	Hulsey/E. Landry	MUNIZ,CARLOS A
L.1 Travel - SSIM Technician Dispatched - Install/Disconnect Addl	Hulsey/E. Landry	MUNIZ,CARLOS A
SL.2 Travel - SSIM - Install 1st	Hulsey/E. Landry	MUNIZ,CARLOS A
L.1 Connect & Turn Up - SSIM - Install 1st/Addl	Hulsey/E. Landry	MUNIZ,CARLOS A
L.1 Connect & Turn Up - SSIM - Disconnect 1st/Addl	Hulsey/E. Landry	MUNIZ,CARLOS A
L.2 Connect & Turn-Up - SSIM - Disconnect 1st/Addl - 4W Voice	Hulsey/E. Landry	MUNIZ,CARLOS A
Network Reliability Center (Minutes)	J. Birmunson	HORTON,R L
% X-box Investment to Apply to Feeder	J.Jackson	JACKSON,J V
% X-box Investment to Apply to Feeder	J.Jackson	JACKSON,J V
B.1 NID to NID XC RJ11 NID	Jerry Reeder, Rick	MUNIZ,CARLOS A
F.1 800 Access Port RTU (Vendor EF&I) - NEW	Joe Badgett	MCLAUGHLIN,R L
F.1 800 Access STP Port Investment (Vendor EF&I) - NEW	Joe Badgett	MCLAUGHLIN,R L
F.2 LIDB Total B LINKS, YE01	Joe Badgett	MCLAUGHLIN,R L
F.2 LIDB Total C LINKS, YE01	Joe Badgett	MCLAUGHLIN,R L
F.2 LIDB Total D LINKS YE01	Joe Badgett	MCLAUGHLIN,R L
F.2 LIDB STP RTU Per Port, NEW (Vendor EF&I)	Joe Badgett	MCLAUGHLIN,R L
F.2 LIDB Customer LINKS 1996	Joe Badgett	MCLAUGHLIN,R L
F.2 LIDB Total BST SSP LINKS 1996	Joe Badgett	MCLAUGHLIN,R L
F.2 LIDB STP Investment per Port, NEW (Vendor EF&I)	Joe Badgett	MCLAUGHLIN,R L
F.2 LIDB Average Vendor Price Per Site - Outside STP Footprint	Joe Badgett	MCLAUGHLIN,R L
F.2 LIDB Integrated Digital Services Terminals (EF&I) - Software	Joe Badgett	MCLAUGHLIN,R L
F.2 LIDB Links Monitoring System (Vendor EF&I) - Software	Joe Badgett	MCLAUGHLIN,R L
F.2 LIDB Integrated Digital Services Terminals (EF&I) - Hardware	Joe Badgett	MCLAUGHLIN,R L
F.2 LIDB Links Monitoring System (Vendor EF&I) - Hardware	Joe Badgett	MCLAUGHLIN,R L
DISC'S-Channels/Plug-In-Universal-RT	John Jackson	JACKSON,J V
SLC Series 5-Channels/Channel Bank-Universal-RT	John Jackson	JACKSON,J V
SLC Series 5-Channels/Plug-In-Universal-COT	John Jackson	JACKSON,J V
Utilization-Remote Terminal	John Jackson	JACKSON,J V
LiteSpan 2000-Channels/Plug-In-Universal-COT	John Jackson	JACKSON,J V
LiteSpan 2000-Channels/Plug-In-Universal-RT	John Jackson	JACKSON,J V
DISC'S-Channels/Channel Bank-Universal-COT	John Jackson	JACKSON,J V
Probability Of Occurrence-FLM-150	John Jackson	JACKSON,J V
SLC Series 5-Channels/Channel Bank-Universal-COT	John Jackson	JACKSON,J V
DISC'S-Channels/Plug-In-Universal-RT	John Jackson	JACKSON,J V
SLC Series 5-# Channels-Universal-COT	John Jackson	JACKSON,J V
SLC Series 5-# Channels-Universal-RT	John Jackson	JACKSON,J V
LiteSpan 2000-# Channels-Universal-COT	John Jackson	JACKSON,J V
LiteSpan 2000-# Channels-Universal-RT	John Jackson	JACKSON,J V
LiteSpan 2000-Channels/Channel Bank-Universal-COT	John Jackson	JACKSON,J V
LiteSpan 2000-Channels/Channel Bank-Universal-RT	John Jackson	JACKSON,J V
DISC'S-# Channels-Universal-COT	John Jackson	JACKSON,J V
LiteSpan 2000-# Channels-Universal-COT	John Jackson	JACKSON,J V
DISC'S-Channels/Channel Bank-Universal-RT	John Jackson	JACKSON,J V

Utilization Probability-DISC's	John Jackson	JACKSON,J V
LiteSpan 2000-# Channels-Universal-RT	John Jackson	JACKSON,J V
LiteSpan 2000-Channels/Channel Bank-Universal-COT	John Jackson	JACKSON,J V
LiteSpan 2000-Channels/Channel Bank-Universal-RT	John Jackson	JACKSON,J V
DISC'S-# Channels-Universal-COT	John Jackson	JACKSON,J V
DISC'S-# Channels-Universal-RT	John Jackson	JACKSON,J V
SLC Series 5-Channels/Plug-In-Universal-RT	John Jackson	JACKSON,J V
Utilization Probability-LiteSpan 2000	John Jackson	JACKSON,J V
DISC'S-Channels/Plug-In-Universal-COT	John Jackson	JACKSON,J V
Utilization Probability-Optimal	John Jackson	JACKSON,J V
DISC'S-Time Slots Required-Universal-COT	John Jackson	JACKSON,J V
DISC'S-Time Slots Required-Universal-RT	John Jackson	JACKSON,J V
LiteSpan 2000-Time Slots Required-Universal-COT	John Jackson	JACKSON,J V
Utilization	John Jackson	JACKSON,J V
SLC Series 5-Time Slots Required-Universal-COT	John Jackson	JACKSON,J V
Utilization Probability-Optimal	John Jackson	JACKSON,J V
SLC Series 5-Time Slots Required-Universal-RT	John Jackson	JACKSON,J V
Utilization Probability-SLC Series 5	John Jackson	JACKSON,J V
Utilization Percent: Copper Feeder	John Jackson	JACKSON,J V
DISC'S-# Channels-Universal-RT	John Jackson	JACKSON,J V
Utilization-Central Office	John Jackson	JACKSON,J V
Units Per DS1-DDM-2000-OC-3	John Jackson ·	JACKSON,J V
Units Per DS1-DISC*S	John Jackson	JACKSON,J V
Units Per DS1-FLM-150	John Jackson	JACKSON,J V
Probability Of Occurrence-DDM-2000 OC-3	John Jackson	JACKSON,J V
Utilization Percent: Copper Distribution	John Jackson	JACKSON,J V
Probability Of Occurrence-FLM-150	John Jackson	JACKSON,J V
Bridge Tap Utilization & Assignment - Feeder	John Jackson	JACKSON,J V
Utilization Percent: Fiber Feeder (DLC) (N/A ADSL & HDSL)	John Jackson	JACKSON,J V
Loop Length For Fbr/Cu Breakpoint-Fdr. (NA ADSL & HDSL)	John Jackson	JACKSON,J V
Bridge Tap Utilization & Assignment - Feeder	John Jackson	JACKSON,J V
Utilization Percent: Copper Distribution	John Jackson	JACKSON,J V
Utilization Percent: Copper Feeder	John Jackson	JACKSON,J V
Utilization Percent: Fiber Feeder (DLC) (N/A ADSL & HDSL)	John Jackson	JACKSON,J V
Loop Length For Fbr/Cu Breakpoint-Fdr. (NA ADSL & HDSL)	John Jackson	JACKSON,J V
Units Per DS1-LiteSpan 2000	John Jackson	JACKSON,J V
Probability Of Occurrence-FLM-150	John Jackson	JACKSON,J V
Probability Of Occurrence-DDM-2000 OC-3	John Jackson	JACKSON,J V
Probability Of Occurrence-LiteSpan 2000	John Jackson	JACKSON,J V
Utilization-Central Office	John Jackson	JACKSON,J V
Units Per DS1-DDM-2000-OC-3	John Jackson	JACKSON,J V
Units Per DS1-DISC*S	John Jackson	JACKSON,J V
Units Per DS1-FLM-150	John Jackson	JACKSON,J V
Probability Of Occurrence-LiteSpan 2000	John Jackson	JACKSON,J V
Utilization-Remote Terminal	John Jackson	JACKSON,J V
LiteSpan 2000-Time Slots Required-Universal-RT	John Jackson	JACKSON,J V
Probability Of Occurrence-DDM-2000 OC-3	John Jackson	JACKSON,J V
Probability Of Occurrence-LiteSpan 2000	John Jackson	JACKSON,J V
Utilization-Central Office	John Jackson	JACKSON,J V
Units Per DS1-DDM-2000-OC-3	John Jackson	JACKSON,J V
Units Per DS1-DISC*S	John Jackson	JACKSON,J V
Units Per DS1-FLM-150	John Jackson	JACKSON,J V
Units Per DS1-LiteSpan 2000	John Jackson	JACKSON,J V
Utilization-Remote Terminal	John Jackson	JACKSON,J V
Units Per DS1-LiteSpan 2000	John Jackson	JACKSON,J V
LiteSpan 2000-Channels/Plug-In-Universal-COT	John Jackson	JACKSON,J V
LiteSpan 2000-Time Slots Required-Universal-RT	John Jackson	JACKSON,J V
Utilization Probability-SLC Series 5	John Jackson	JACKSON,J V
Utilization Probability-LiteSpan 2000	John Jackson	JACKSON,J V
Utilization Probability-DISC's	John Jackson	JACKSON,J V
DISC'S-Channels/Plug-In-Universal-COT	John Jackson	JACKSON,J V

DISC'S-Time Slots Required-Universal-COT	John Jackson	JACKSON,J V
DISC'S-Time Slots Required-Universal-COT	John Jackson	JACKSON,J V
DISC'S-Time Slots Required-Universal-RT	John Jackson	JACKSON,J V
LiteSpan 2000-Channels/Plug-In-Universal-RT	John Jackson	JACKSON,J V
LiteSpan 2000-Time Slots Required-Universal-COT	John Jackson	JACKSON,J V
LiteSpan 2000-Time Slots Required-Universal-RT	John Jackson	JACKSON,J V
SLC Series 5-Time Slots Required-Universal-COT	John Jackson	JACKSON,J V
SLC Series 5-Time Slots Required-Universal-RT	John Jackson	JACKSON,J V
SLC Series 5-Channels/Plug-In-Universal-RT	John Jackson	JACKSON,J V
SLC Series 5-Channels/Plug-In-Universal-COT	John Jackson	JACKSON,J V
SLC Series 5-Channels/Plug-In-Universal-COT	John Jackson	JACKSON,J V
LiteSpan 2000-Channels/Plug-In-Universal-COT	John Jackson	JACKSON,J V
SLC Series 5-# Channels-Universal-RT	John Jackson	JACKSON,J V
DISC'S-# Channels-Universal-RT	John Jackson	JACKSON,J V
LiteSpan 2000-Channels/Channel Bank-Universal-RT	John Jackson	JACKSON,J V
LiteSpan 2000-Channels/Channel Bank-Universal-COT	John Jackson	JACKSON,J V
LiteSpan 2000-# Channels-Universal-RT	John Jackson	JACKSON,J V
DISC'S-# Channels-Universal-COT	John Jackson	JACKSON,J V
LiteSpan 2000-Channels/Plug-In-Universal-RT	John Jackson	JACKSON,J V
DISC'S-Time Slots Required-Universal-RT	John Jackson	JACKSON,J V
DISC'S-Channels/Channel Bank-Universal-COT	John Jackson	JACKSON,J V
DISC'S-Channels/Channel Bank-Universal-RT	John Jackson	JACKSON,J V
SLC Series 5-Time Slots Required-Universal-RT	John Jackson	JACKSON,J V
SLC Series 5-Time Slots Required-Universal-COT	John Jackson	JACKSON,J V
SLC Series 5-Channels/Channel Bank-Universal-COT	John Jackson	JACKSON,J V
SLC Series 5-Channels/Channel Bank-Universal-RT	John Jackson	JACKSON,J V
SLC Series 5-# Channels-Universal-COT	John Jackson	JACKSON,J V
SLC Series 5-# Channels-Universal-RT	John Jackson	JACKSON,J V
LiteSpan 2000-# Channels-Universal-COT	John Jackson	JACKSON,J V
DISC'S-Channels/Channel Bank-Universal-COT	John Jackson	JACKSON,J V
DISC'S-Channels/Plug-In-Universal-COT	John Jackson	JACKSON,J V
SLC Series 5-Channels/Plug-In-Universal-RT	John Jackson	JACKSON,J V
DISC'S-Channels/Plug-In-Universal-RT	John Jackson	JACKSON,J V
Utilization Probability-Optimal	John Jackson	JACKSON,J V
Utilization Probability-LiteSpan 2000	John Jackson	JACKSON,J V
Utilization Probability-SLC Series 5	John Jackson	JACKSON,J V
LiteSpan 2000-Time Slots Required-Universal-COT	John Jackson	JACKSON,J V
DISC'S-Channels/Channel Bank-Universal-RT	John Jackson	JACKSON,J V
SLC Series 5-Channels/Channel Bank-Universal-COT	John Jackson	JACKSON,J V
SLC Series 5-Channels/Channel Bank-Universal-RT	John Jackson	JACKSON,J V
SLC Series 5-# Channels-Universal-COT	John Jackson	JACKSON,J V
Utilization Probability-DISC's	John Jackson	JACKSON,J V
% X-box Investment to Apply to Distribution	K.Gardner,	KINSEY,LINDA M
% X-box Investment to Apply to Distribution	K.Gardner,	KINSEY,LINDA M
4-Wire ISDN DS1 Digital Trunk Port-TCG-Disconnect Add.	Ken Collins	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-TCG-Disconnect Add.	Ken Collins	HASKEW,JOHN R
4-Wire ISDN DS1 Digital Trunk Port-TCG-Disconnect 1st	Ken Collins	HASKEW,JOHN R
4-Wire ISDN DS1 Digital Trunk Port-TCG-Install Add.	Ken Collins	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-TCG-JFC	Ken Collins	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-TCG-Disconnect 1st	Ken Collins	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-TCG-Install 1st	Ken Collins	HASKEW,JOHN R
4-Wire ISDN DS1 Digital Trunk Port-TCG-Install 1st	Ken Collins	HASKEW,JOHN R
2-Wire Analog DID Trunk Port-TCG-Install Add.	Ken Collins	HASKEW,JOHN R
4-Wire ISDN DS1 Digital Trunk Port-TCG-JFC	Ken Collins	HASKEW,JOHN R
POTS Plug-Ins Material Price	Mike Zitzmann	KINSEY,LINDA M
Common Plug-Ins Material Price - 4 Wire	Mike Zitzmann	KINSEY,LINDA M
Common Plug-Ins Material Price - 2 Wire	Mike Zitzmann	KINSEY,LINDA M
Telephone Plant Index	Mike Zitzmann	KINSEY,LINDA M
I.3.1 Application Cost - INAC Disconnect First	Nancy Kallus	SHORES,JOAN R
I.3.1 Application Cost - INAC Install First	Nancy Kallus	SHORES,JOAN R
I.3.1 Application Cost - INAC Install First	Nancy Kallus	SHORES,JOAN R

I.3.1 Application Cost - INAC Disconnect First	Nancy Kallus	SHORES,JOAN R
F.2 LIDB NISC/INSAC Translations, min per LINK, connect or	Pat Mealor	ECHOLS,CHARLEN
F.2 LIDB NISC/INSAC Translations Time - minutes	Pat Mealor	ECHOLS,CHARLEN
H.9 Selective Routing Probability-5ESS	Ramiro Martinez	HASKEW,JOHN R
H.9 Selective Routing Probability-DMS	Ramiro Martinez	HASKEW,JOHN R
H.9 Customized Routing - Provisioning hours (build & test) per	Ramiro Martinez	HASKEW,JOHN R
H.9 Customized Routing - Provisioning hours (build & test) per	Ramiro Martinez	HASKEW,JOHN R
H.9 Selective Routing JFC	Ramiro Martinez	HASKEW,JOHN R
POTS 5ESS - Per Growth Line	Randy Falls	PARKER,BONNIE S
I.3.1 Application Cost - Outside Plant Engineering Install First	Ron Harris	KINSEY,LINDA M
I.3.5 Cable Installation Cost Per Cable - Outside Plant Engineering	Ron Harris	KINSEY,LINDA M
I.3.1 Application Cost - Outside Plant Engineering Disconnect	Ron Harris	KINSEY,LINDA M
I.3.1 Application Cost - Outside Plant Engineering Disconnect	Ron Harris	KINSEY,LINDA M
I.3.5 Cable Installation Cost Per Cable - Outside Plant Engineering	Ron Harris	KINSEY,LINDA M
I.3.1 Application Cost - Outside Plant Engineering Install First	Ron Harris	KINSEY,LINDA M
I.3.5 Cable Installation Cost Per Cable - Outside Plant Engineering	Ron Harris	KINSEY,LINDA M
I.3.5 Cable Installation Cost Per Cable - Outside Plant Engineering	Ron Harris	KINSEY,LINDA M
2-Wire Analog DID Trunk Port-CPG Service Order-Disconnec Add.	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog Line Port-CPG Engineering-Disconnect 1st	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog DID Trunk Port-CPG Service Order-Disconnect 1st	Sharon Smith	CHARLES,WILLIAM
4-Wire Analog Voice Grade Port-CPG Service Order-Install Add.	Sharon Smith	CHARLES,WILLIAM
4-Wire Analog Voice Grade Port-CPG Service Order-Disconnect	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog Line Port-CPG Service Order-Install Add.	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog Line Port-CPG Service Order-Disconnect Add.	Sharon Smith	CHARLES,WILLIAM
4-Wire Analog Voice Grade Port-CPG Service Order-Disconnect	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog Line Port-CPG Service Order-JFC	Sharon Smith	CHARLES,WILLIAM
4-Wire Analog Voice Grade Port-CPG Service Order-Install 1st	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog Line Port-CPG Engineering-Disconnect Add.	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog Line Port-CPG Engineering - JFC	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog DID Trunk Port-CPG Service Order-JFC	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog DID Trunk Port-CPG Service Order-Install Add.	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog DID Trunk Port-CPG Service Order-Install 1st	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog Line Port-CPG Engineering-Install 1st	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog Line Port-CPG Engineering-Install Add.	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog Line Port-CPG Service Order-Install 1st	Sharon Smith	CHARLES,WILLIAM
4-Wire Analog Voice Grade Port-CPG Service Order-JFC	Sharon Smith	CHARLES,WILLIAM
2-Wire Analog Line Port-CPG Service Order-Disconnect 1st	Sharon Smith	CHARLES,WILLIAM
Utilization Percent: Trunk Distributing Frame	Sheila Coffey/Tom	THOMPSON,STANL
Utilization Percent: Trunk Distributing Frame	Sheila Coffey/Tom	THOMPSON,STANL
L.1 Engineering - CPG - Disconnect 1st	Smith/E. Landry	CHARLES,WILLIAM
SL.2 Service Order - CPG - Install/Disconnect Addl	Smith/E. Landry	CHARLES,WILLIAM
L.1 Engineering - CPG - Disconnect Addl	Smith/E. Landry	CHARLES,WILLIAM
L.2 Service Order - CPG - Install/Disconnect Add(exclude	Smith/E. Landry	CHARLES,WILLIAM
L.2 Engineering - CPG - Disconnect 1st/Addl (exclude Nondesign)	Smith/E. Landry	CHARLES,WILLIAM
L.2 Service Order - CPG - Install/Disconnect 1st(exclude	Smith/E. Landry	CHARLES,WILLIAM
L.1 Engineering - CPG - Install 1st/Addl	Smith/E. Landry	CHARLES,WILLIAM
L.2 Engineering - CPG - Install 1st/Addl (exclude Nondesign)	Smith/E. Landry	CHARLES,WILLIAM
SL.2 Engineering - CPG - Disconnect 1st/Addl	Smith/E. Landry	CHARLES,WILLIAM
SL.2 Service Order - CPG - Install/Disconnect 1st	Smith/E. Landry	CHARLES,WILLIAM
SL.2 Engineering - CPG - Install 1st/Addl	Smith/E. Landry	CHARLES,WILLIAM
DS0 Equivalents - Copper	Stan Fory	JACKSON,J V
DS0 Equivalents - Fiber (Feeder) (NA ADSL & HDSL)	Stan Fory	JACKSON,J V
Maximum Forward-Looking Bridge Tap Length - Feeder	Stan Fory	JACKSON,J V
DS0 Equivalents - Fiber (Feeder) (NA ADSL & HDSL)	Stan Fory	JACKSON,J V
Maximum Forward-Looking Bridge Tap Length - Feeder	Stan Fory	JACKSON,J V
DS0 Equivalents - Copper	Stan Fory	JACKSON,J V
L.2 Connect & Turn-Up - CO I&M - Install 1st/Addl	Stinson/E. Landry	MUNIZ,CARLOS A
SL.2 Connect & Turn-Up - CO I&M - Disconnect 1st/Addl	Stinson/E. Landry	MUNIZ,CARLOS A
L.1 Connect & Turn Up - CO I&M - Disconnect 1st/Addl	Stinson/E. Landry	MUNIZ,CARLOS A
L.2 Connect & Turn-Up - CO I&M - Disconnect 1st/Addl	Stinson/E. Landry	MUNIZ,CARLOS A
SL.2 Connect & Turn-Up - CO I&M - Install 1st/Addl	Stinson/E. Landry	MUNIZ,CARLOS A

L.1 Connect & Turn Up - CO I&M - Install 1st/Addl	Stinson/E. Landry	MUNIZ,CARLOS A
L.3 Connect & Turn-Up - CO I&M - Disconnect 1st/Addl	Stinson/T. June	MUNIZ,CARLOS A
L.3 Connect & Turn-Up - CO I&M - Install 1st/Addl	Stinson/T. June	MUNIZ,CARLOS A
Cable Rack number DS3 Circuits per Cable Rack	Tom Weber	THOMPSON,STANL
DSX-3 Panel Material Price	Tom Weber	THOMPSON,STANL
Trunk Distributing Frame Material Price	Tom Weber	THOMPSON,STANL
DSX-1 Panel Material Price	Tom Weber	THOMPSON,STANL
Trunk Distributing Frame - No. 4W Connections	Tom Weber	THOMPSON,STANL
Cable Rack - number DS1 Circuits per Cable Rack	Tom Weber	THOMPSON,STANL
Cable Rack - number 4W Circuits per Cable Rack	Tom Weber	THOMPSON,STANL
Cable Rack - number 2W Circuits per Cable Rack	Tom Weber	THOMPSON,STANL
I.3.1 Application Cost - CSCM Disconnect First	Tom Weber	THOMPSON,STANL
DS1 - Percent Cross Connects Requiring Repeaters	Tom Weber	THOMPSON,STANL
I.3.5 Cable Installation Cost Per Cable - CSCM Disconnect First	Tom Weber	THOMPSON,STANL
Cable Rack Average Length (Cable Support)	Tom Weber	THOMPSON,STANL
Utilization Percent: Cable Rack for x-conn	Tom Weber	THOMPSON,STANL
Cable Rack Length - DS1 Cross Connect	Tom Weber	THOMPSON,STANL
DS1 POT BAY Connect Block Material Price	Tom Weber	THOMPSON,STANL
Cable Rack Material Price (Per Linear Foot) (x-conn)	Tom Weber	THOMPSON,STANL
Cable Capacity - 4W on 100 Pr cable	Tom Weber	THOMPSON,STANL
Connecting Block - No. Circuits Per (4W)	Tom Weber	THOMPSON,STANL
DSX-1 Panel Capacity	Tom Weber	THOMPSON,STANL
DS3 Repeater Bay Capacity	Tom Weber	THOMPSON,STANL
Cable 28 Pair (DS1 Cross Connect) 330Ft Material Price	Tom Weber	THOMPSON,STANL
Trunk Distributing Frame - No. 2W Connections	Tom Weber	THOMPSON,STANL
DS3 POT Bay Capacity - Shelves	Tom Weber	THOMPSON,STANL
Utilization Percent: DS3 Repeater Bay	Tom Weber	THOMPSON,STANL
DS3 POT Bay Module Material Price	Tom Weber	THOMPSON,STANL
Cable Capacity - 2W on 100 Pr cable	Tom Weber	THOMPSON,STANL
Connecting Block - No. Circuits Per (2W)	Tom Weber	THOMPSON,STANL
DS3 POT Bay Module Capacity	Tom Weber	THOMPSON,STANL
DS1 - Number Per Repeater Bay	Tom Weber	THOMPSON,STANL
DS1 - Per POT Bay Shelf Capacity	Tom Weber	THOMPSON,STANL
DS1 POT BAY Shelf Material Price	Tom Weber	THOMPSON,STANL
DS1 Repeater Shelf Material Price	Tom Weber	THOMPSON,STANL
DS1 Repeater Material Price	Tom Weber	THOMPSON,STANL
DS3 POT Bay Shelf Material Price	Tom Weber	THOMPSON,STANL
Termination Block material price	Tom Weber	THOMPSON,STANL
DS3 Repeater Capacity	Tom Weber	THOMPSON,STANL
Utilization Percent: Cable DS3 X Connect Cable	Tom Weber	THOMPSON,STANL
DS1 - Number Per Repeater	Tom Weber	THOMPSON,STANL
Cable Capacity - DS3 on 2 Coax Cables	Tom Weber	THOMPSON,STANL
Connecting Block - No. Connections per 2W x-conn	Tom Weber	THOMPSON,STANL
Connecting Block - No. Connections per 4W x-conn	Tom Weber	THOMPSON,STANL
Trunk Distributing Frame - No. Connections per 2W x-conn	Tom Weber	THOMPSON,STANL
Trunk Distributing Frame - No. Connections per 4W x-conn	Tom Weber	THOMPSON,STANL
Cable Rack Investment Per Linear Foot (Cable Support)	Tom Weber	THOMPSON,STANL
DS1 POT Bay Connecting Block Capacity	Tom Weber	THOMPSON,STANL
Cables - Number Per Cable Rack (Cable Support)	Tom Weber	THOMPSON,STANL
DS3 Repeater Shelf Capacity	Tom Weber	THOMPSON,STANL
DS1 POT Bay Capacity - Shelves	Tom Weber	THOMPSON,STANL
DS3 POT Bay Shelf Capacity	Tom Weber	THOMPSON,STANL
Shelves - Number Per POT Bay (DS1)	Tom Weber	THOMPSON,STANL
Termination Block - No. Circuits per (4W)	Tom Weber	THOMPSON,STANL
Cable Capacity - DS1 on 28 Pr cable	Tom Weber	THOMPSON,STANL
DSX-3 Panel Capacity	Tom Weber	THOMPSON,STANL
Termination Block - No. Circuits per (2W)	Tom Weber	THOMPSON,STANL
DS1 - Number Per Repeater Shelf	Tom Weber	THOMPSON,STANL
Connecting Block Material Price	Tom Weber	THOMPSON,STANL
Power Usage per Month per Ampere	Tom Weber	THOMPSON,STANL
Power Plant Investment per Ampere	Tom Weber	THOMPSON,STANL

Cables - Number Per Cable Rack (Cable Support)	Tom Weber	THOMPSON,STANL
DS3 - Percent Cross Connect requiring Repeaters	Tom Weber	THOMPSON,STANL
DSX-1 Panel Capacity	Tom Weber	THOMPSON,STANL
Connecting Block - No. Circuits Per (2W)	Tom Weber	THOMPSON,STANL
Cable Rack Length - 2W/4W Cross Connect	Tom Weber	THOMPSON,STANL
Power Plant Investment per Ampere	Tom Weber	THOMPSON,STANL
Trunk Distributing Frame - No. 4W Connections	Tom Weber	THOMPSON,STANL
Connecting Block - No. Circuits Per (4W)	Tom Weber	THOMPSON,STANL
DS3 Repeater Bay Material Price	Tom Weber	THOMPSON,STANL
Cable Rack Material Price (Per Linear Foot) (x-conn)	Tom Weber	THOMPSON,STANL
Connecting Block - No. Connections per 2W x-conn	Tom Weber	THOMPSON,STANL
Cable Rack Investment Per Linear Foot (Cable Support)	Tom Weber	THOMPSON,STANL
Connecting Block - No. Connections per 4W x-conn	Tom Weber	THOMPSON,STANL
Trunk Distributing Frame - No. Connections per 2W x-conn	Tom Weber	THOMPSON,STANL
Trunk Distributing Frame - No. Connections per 4W x-conn	Tom Weber	THOMPSON,STANL
Power Usage per Month per Ampere	Tom Weber	THOMPSON,STANL
DSX-3 Panel Capacity	Tom Weber	THOMPSON,STANL
Connecting Block Material Price	Tom Weber	THOMPSON,STANL
Cable Rack Length - DS3 Cross Connect	Tom Weber	THOMPSON,STANL
DSX-1 Panel Material Price	Tom Weber	THOMPSON,STANL
DS3 Repeater Shelf Material Price	Tom Weber	THOMPSON,STANL
Cable - 100 Pr, 400 Feet Material Price	Tom Weber	THOMPSON,STANL
Cable Rack Average Length (Cable Support)	Tom Weber	THOMPSON,STANL
Cable Rack Length - 2W/4W Cross Connect	Tom Weber	THOMPSON,STANL
Cable Rack Capacity (100Pr Cable) Cables per Rack	Tom Weber	THOMPSON,STANL
Cable Rack Capacity (DS1 28 Pr Cable) Cables per Rack	Tom Weber	THOMPSON,STANL
Cable Rack Capacity (DS3) Circuits per Rack	Tom Weber	THOMPSON,STANL
DSX-3 Panel Material Price	Tom Weber	THOMPSON,STANL
POT Bay - No. Circuits Per (4W)	Tom Weber	THOMPSON,STANL
Trunk Distributing Frame - No. 2W Connections	Tom Weber	THOMPSON,STANL
Cable Rack Length - DS3 Cross Connect	Tom Weber	THOMPSON,STANL
POT Bay Material Price (2W/4W)	Tom Weber	THOMPSON,STANL
DS1 POT BAY Material Price	Tom Weber	THOMPSON,STANL
Cable Rack Length - DS1 Cross Connect	Tom Weber	THOMPSON,STANL
DS3 POT Bay Material Price	Tom Weber	THOMPSON,STANL
POT Bay - No. Circuits Per (2W)	Tom Weber	THOMPSON,STANL
DS3 Repeater Material Price	Tom Weber	THOMPSON,STANL
Trunk Distributing Frame Material Price	Tom Weber	THOMPSON,STANL
DS1 Repeater Bay Material Price	Tom Weber	THOMPSON,STANL
Cable DS3 (2 Coax Cables & Cable Connector) Material Price	Tom Weber	THOMPSON,STANL
I.3.5 Cable Installation Cost Per Cable - CSCM Disconnect First	Tom Weber	THOMPSON,STANL
I.3.1 Application Cost - CSCM Install First	Tom Weber	THOMPSON,STANL
I.3.1 Application Cost - CSCM Disconnect First	Tom Weber	THOMPSON,STANL
I.3.5 Cable Installation Cost Per Cable - CSCM Install First	Tom Weber	THOMPSON,STANL
I.3.1 Application Cost - CSCM Install First	Tom Weber	THOMPSON,STANL
I.3.5 Cable Installation Cost Per Cable - CSCM Install First	Tom Weber	THOMPSON,STANL
I.3.5 Cable Installation Cost Per Cable - Outside Plant	Wade Bolotte	GOODMAN,RICHAR
I.3.5 Cable Installation Cost Per Cable - Outside Plant	Wade Bolotte	GOODMAN,RICHAR
I.3.5 Cable Installation Cost Per Cable - Outside Plant	Wade Bolotte	GOODMAN,RICHAR
I.3.5 Cable Installation Cost Per Cable - Outside Plant	Wade Bolotte	GOODMAN,RICHAR
SL.1Service Inquiry - OSPE - Install 1st/Addl	Zitsman/E. Landry	KINSEY,LINDA M
SL.2 Engineering - OSPE - Install 1st/Addl	Zitsman/E. Landry	KINSEY,LINDA M
SL.2 Engineering - OSPE - Disconnect 1st/Addl	Zitsman/E. Landry	KINSEY,LINDA M
SL.1Service Inquiry - OSPE -Disconnect 1st/Addl	Zitsman/E. Landry	KINSEY,LINDA M
L.1 Service Inquiry - OSPE - Install 1st/Addl	Zitsman/E. Landry	KINSEY,LINDA M
L.2 Engineering - OSPE - Install 1st/Addl - ISDN	Zitsman/E. Landry	KINSEY,LINDA M
L.2 Engineering - OSPE - Install 1st/Addl-2W, 4W Designed & 2W	Zitsman/E. Landry	KINSEY,LINDA M
L.2 Engineering - OSPE - Disconnect 1st/Addl	Zitsman/E. Landry	KINSEY,LINDA M
L.1 Service Inquiry - OSPE -Disconnect 1st/Addl	Zitsman/E. Landry	KINSEY,LINDA M
L.3 Engineering - OSPE - Install 1st/Addl	Zitsman/T. June	KINSEY,LINDA M
L.3 Engineering - OSPE - Disconnect 1st/Addl	Zitsman/T. June	KINSEY,LINDA M